REMARKS

Applicants respectfully traverse the 35 U.S.C. § 102(e) rejection of claims 1-17 over Keenan, U.S. Patent 6,584,413.

The present invention relates to a pass/fail judgment device and method, a pass/fail judgment program, and a multivariate statistics analyzer. The invention also relates to a discriminant analysis that is one technique of the multivariate statistic analysis that deals with multivariate data statistically.

In the discriminant analysis, samples are analyzed based on histograms made with plural parameters, as shown in the figure below. In the discriminant analysis, a threshold is set for separating two different characteristic categories. When parameters of a new sample are detected, this analysis determines to which category the sample belongs.

It is preferable to reduce errors, i.e., the threshold value of Z is set to the middle point of the average of each category, meaning that the value of Z = 0. Z = 0 is the solution of the discriminant function, and it minimizes misclassification for determining the category of the new sample.

If the value of Z is set to a value other than 0, however, as shown in the hatched areas in the figure below, the number of misclassifications increases. In the conventional discriminant analysis, the most important purpose was to reduce the misclassification, so it was not necessary to set the value of Z to a value other than 0.

The present invention takes into consideration a rate of flowout and a rate of overcontrol, and as a result, the threshold value of Z is set to a value other than 0. One of the purposes of this invention is that the sample in the one category is more surely determined as that belongs to the one category.

-14-

$$Z=\alpha_1\chi_1+\alpha2\chi_2+...\alpha_n\chi_n$$

Z=0

Z≠0
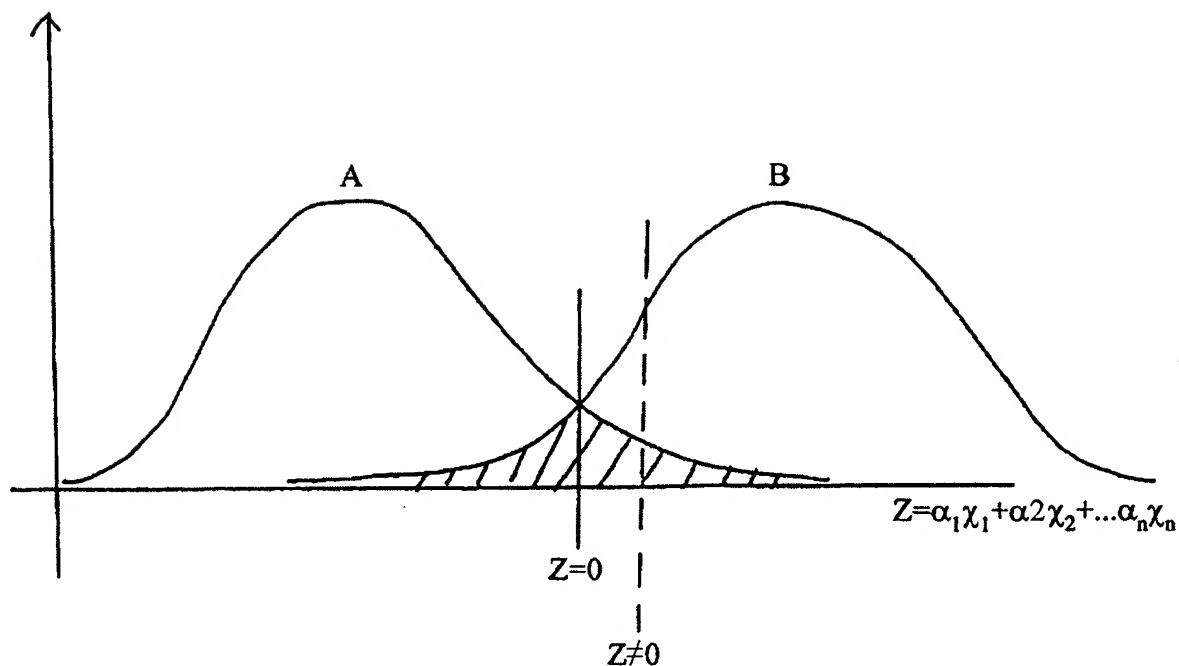
Keenan discloses a multivariate analysis for determining the properties of a sample. Keenan does not disclose or suggest a discriminant analysis.

The present invention, as set forth, e.g., in the claims, is patentably distinguishable from Keenan. The present invention checks if products are good or defective, i.e., whether they "pass" or "fail," by controlling a rate of flowout or a rate of overcontrol, as recited in the claims, and as discussed at page 5, lines 13-18 of the present specification. Applicant has amended the claims to more clearly recite this aspect of the present invention. The claims have further been amended to correct numerous minor informalities recited, e.g., to antecedent basis and grammar.

Moreover, although Keenan discloses a threshold, this threshold is for selecting the proper number of pure spectral components by eliminating noise from measured spectral data, and determining whether a detected spectrum is strong enough to

determine a specific spectrum. Keenan's threshold is variable based on a sensitivity constant. See, e.g., col. 23, lines 59 - col. 24, line 30 of Keenan. Keenan's disclosed threshold is patentably distinguishable from the claimed threshold for a pass/fail judgment wherein the value of a variable gives a specific distribution probability based on at least one of a rate of overcontrol in the pass category and a rate of flowout in the fail category based on a center of distribution and distribution parameters.

Lacking at least a disclosure of the above-discussed features of the claimed invention, Keenan does not anticipate the claims under 35 U.S.C. § 102(e).
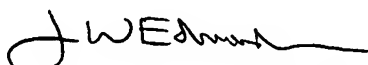
In view of the foregoing remarks, Applicants submit that the claims, as amended, are neither anticipated nor rendered obvious in view of the prior art references cited against this application. Applicants therefore request the Examiner's favorable reconsideration of the claims, and the timely allowance of the claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to our deposit account 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

Dated: July 10, 2006   By: _WEdmon_____

James W. Edmondson
Reg. No. 33,871